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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/798,549

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Gang Duan

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GENENCOR INTERNATIONAL, INC.  
ATTENTION: LEGAL DEPARTMENT  
925 PAGE MILL ROAD  
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EXAMINER

KAM, CHIH MIN

ART UNIT

PAPER NUMBER

1656

MAIL DATE

DELIVERY MODE

07/05/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/798,549

Applicant(s)

DUAN ET AL.

Examiner

Chih-Min Kam

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 25 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 18-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 8-10, 19 and 21 is/are rejected.
- 7) ☒ Claim(s) 4-7, 11, 12, 18, 20, 22 and 23 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/25/07</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Status of the Claims***

1. Claims 1-12 and 18-23 are pending.

Applicant's amendment filed April 25, 2007 is acknowledged. Applicants' response has been fully considered. Claims 1 and 11 have been amended, claims 13-17 have been cancelled, and new claims 18-23 have been added. Therefore, claims 1-12 and 18-23 are examined.

### **Withdrawn Informalities**

2. The previous objection to the specification is withdrawn in view of applicants' amendment to the specification, and applicant's response at page 6 in the amendment filed April 25, 2007.

### **Withdrawn Objection to IDS**

3. The previous objection to IDS is withdrawn in view of applicants' submission of an IDS containing publication date for Shetty reference, and applicant's response at page 6 in the amendment filed April 25, 2007.

### **Withdrawn Claim Rejections - 35 USC § 112**

4. The previous rejection of claims 1-7 and 10-17 under 35 U.S.C.112, second paragraph, is withdrawn in view of applicants' amendment to the claims, applicants' cancellation of the claims, and applicant's response at page 6 in the amendment filed April 25, 2007.

### **Withdrawn Claim Rejections - 35 USC § 102**

5. The previous rejection of claims 13-17 under 35 U.S.C. 102(b) as being anticipated by Kohmoto *et al.* (Bifidobacteria Microflora 7(2), 61-69 (1988)), is withdrawn in view of

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applicants' cancellation of the claims, and applicant's response at page 6 in the amendment filed April 25, 2007.

***Maintained Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 8-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 8-9 are indefinite because of the use of the term "derived from". The cited term renders the claim indefinite, it is not clear how different the starch liquefying enzyme derived from a Bacillus is from the parent enzyme in the Bacillus (claims 8-9).

**Response to Arguments**

Applicants indicate claims 1 and 11 have been amended to "obtained from" as suggested by the examiner (page 6 of the response).

Applicants' response has been considered, regarding claims 1-7 and 10-17, the arguments are persuasive and the rejection is withdrawn. However, claims 8-9 still contain the term "derived from", thus the rejection is maintained.

***New Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-3, 10, 19 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kohmoto *et al.* (Bifidobacteria Microflora 7(2), 61-69 (1988)) taken with Tomimura (EP 0405283).

Kohmoto *et al.* teach an isomalto-oligosaccharide composition (i.e., Isomalto-900) was prepared from cornstarch by the action of  $\alpha$ -amylase (can act as a maltogenic enzyme and starch liquefying enzyme as evidenced in paragraphs [0043] & [0050] of US 2005/0031734), pullulanase and  $\alpha$ -glucosidase (a transglucosidase; claim 10), where the composition dry base is analyzed by HPLC and contains 48.8% of isomaltose, 6.9% of panose and 16.9% of isomaltotriose (the paragraph bridging pages 61 and 62; Table 1; claims 1-3). The reference also teaches addition of Isomalto-900 to some foods such as coffee jelly and mizuyokan jelly (page 62, last paragraph; claims 19 and 21). However, Kohmoto *et al.* do not disclose the use of a maltogenic enzyme.

Tomimura teaches pullulanase can be used in conjunction with maltogenic enzymes to produce maltose syrups with high maltose contents from starch hydrolyzate (page 3, lines 6-11; page 7, line 54-page 8, line 30).

At the time of invention was made, it would have been obvious to one of ordinary skill in the art to make an isomalto-oligosaccharide composition (i.e., Isomalto-900) from cornstarch as taught by Kohmoto *et al.* using  $\alpha$ -amylase, pullulanase and  $\alpha$ -glucosidase, where a maltogenic enzyme (e.g., alpha-amylase) and pullulanase act on corn starch to produce maltose (see Table III) in the mixture because Tomimura indicates pullulanase in conjunction of a maltogenic enzyme would increase maltose content. Thus, the combined references result in the claimed

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invention and were, as a whole, prima facie obvious at the time it would have claimed invention was made.

### ***Claim Objections***

8. Claims 4-7, 11, 12, 18, 20 and 22-23 are objected because the claims are dependent from a rejected claim.

### ***Conclusion***

9. Claims 1-3, 8-10, 19 and 21 are rejected; and claims 4-7, 11, 12, 18, 20 and 22-23 are objected to.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chih-Min Kam whose telephone number is (571) 272-0948. The examiner can normally be reached on 8.00-4:30, Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kathleen Bragdon can be reached at 571-272-0931. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Chih-Min Kam, Ph. D.  
Primary Patent Examiner

A handwritten signature in black ink, appearing to be 'Chih-Min Kam', written in a cursive style.

CHIH-MIN KAM  
PRIMARY EXAMINER

CMK

June 29, 2007